

Nota Científica / Short Communication: Lectotypification and a new combination in *Cynophalla* (Capparaceae)

Lectotipificaciones y una nueva combinación en Cynophalla

Xavier Cornejo¹ & Hugh H. Iltis²

Abstract

Cynophalla and *Uterveria* (Capparaceae) are lectotypified here. *Uterveria* is placed in synonymy under *Cynophalla* and *Cynophalla amplissima* (Lam.) Iltis & Cornejo is proposed as a new combination.

Key words: Capparaceae, *Cynophalla*, *C. amplissima*, lectotypification, Neotropics.

Resumen

Se lectotipifican a *Cynophalla* y *Uterveria* (Capparaceae). *Uterveria* es puesta en la sinonimia de *Cynophalla* y se propone la nueva combinación *Cynophalla amplissima* (Lam.) Iltis & Cornejo.

Palabras clave: Capparaceae, *Cynophalla*, *C. amplissima*, lectotipificaciones, neotrópico.

Cynophalla (DC.) J. Presl (Capparaceae) is a clear-cut New World entity, recognized and segregated as such by Candolle (1824) as a section of *Capparis* L., and by Eichler (1865) at the subgeneric level. *Cynophalla* was established as a genus by Presl (1825), but for a long time has been placed in synonymy under *Capparis s.l.*, a polymorphic Old World genus (Cornejo & Iltis 2008a). In recent years, *Cynophalla* has been resurrected and recognized at generic level based on morphological grounds (Cornejo & Iltis 2006, 2008b). Additionally, a recent phylogenetic study based on molecular data (Hall 2008) also supports the splitting of the New World species traditionally identified or placed in *Capparis* and demonstrated the monophyly of *Cynophalla*.

Among the new world genera of Capparaceae, *Cynophalla* is easily recognizable because of many distinctive characters, such as the mostly glabrous or, if pubescent, then with simple, unbranched hairs, a 2-seriate anisosepalous calyx with the outer sepals smaller, the 1 (to 3) peculiar supra-axillary nectary gland(s) arranged in the leaf axils just above the petioles mostly on young branches, the usually distichous phyllotaxy, the flat to somewhat concave floral nectaries, these usually disposed \pm horizontally on the receptacle

and the capsular fruits bearing seeds with green embryos (Cornejo & Iltis 2008b). The calyces of *Cynophalla* are only similar to those of *Anisocapparis* Cornejo & Iltis, that is a monospecific genus restricted to Bolivia, Paraguay, and adjacent Brazil to northern Argentina (Cornejo & Iltis 2008a). However, *Anisocapparis* is easily recognized by absence (vs. presence) of supra-axillary nectary glands, the floral nectaries strongly dimorphic (vs. floral nectaries monomorphic), the pollen finely reticulate (vs. pollen tectate-spinulose), the fruits pepo (vs. capsular), and mainly by the seeds subglobose, with embryos highly anisocotylar, with a major cotyledon, subglobose, compact, white, specialized for storage, and a minor cotyledon rudimentary or absent (vs. seeds \pm reniform and laterally somewhat flattened, with embryos of similar shape and size, green, many times convoluted, thin and flexible) (Cornejo & Iltis 2008a,c).

Cynophalla comprises ca. 16 \pm closely related species forming a polyploidy series (Iltis & Cornejo 2005), distributed from the United States (southern Florida) and Mexico to northern Argentina and the West Indies (Cornejo & Iltis 2008b). In the present work, the genus *Cynophalla* is lectotypified, a new synonym and a new combination are presented.

¹The New York Botanical Garden, 200th St. and Kazimiroff Av., Bronx, New York, 10458-5126, USA. xcomejoguay@gmail.com

²University of Wisconsin, Department of Botany, 430 Lincoln Drive, Madison, WI, 53706, USA.

Cynophalla (DC.) J. Presl in Berchtold & Presl, Prir. Rostl. 2: 275. 1825. *Capparis* sect. *Cynophalla* DC., Prodr. 1: 249. 1824. *Capparis* subg. *Cynophalla* (DC.) Eichler in Mart, Fl. bras. 13: 281. 1865. Type species: *Capparis flexuosa* (L.) L. (*Cynophalla flexuosa* (L.) J. Presl, lectotype, here designated. *Uterveria* Bertol., Pl. Nov. Hort. Bonon. 2: 7. 1839, p.p. [excl. *U. frondosa* (Jacq.) Bertol., *U. comosa* (Jacq.) Bertol., *U. breynia* (L.) Bertol., *U. tenuisiliqua* (Jacq.) Bertol.], *syn. nov.* Type species: *Uterveria verrucosa* (Jacq.) Bertol. (*Cynophalla verrucosa* (Jacq.) J. Presl); lectotype here designated.

Uterveria was proposed as a neotropical genus of Capparaceae, segregated from *Capparis s.l.* The name was published by Bertoloni (1839), in which eight mostly unrelated species belonging to four genera, all characterized by 2-valvate capsular fruits, were transferred from *Capparis s.l.* to this quite artificially assembled genus, without any species designated as the type. Due to its heterogeneous composition, *Uterveria* has been regarded as a doubtful genus neglected by botanists (Walpers 1842), or synonymized under *Capparis*, but not assigned to any of its subgenus (Eichler 1865). Subsequently, *Uterveria* was placed in *Capparis* sect. *Capparidastrum* DC. (Bentham & Hooker 1867), cited after a brief morphological description and with "Jacq. Amer. t. 104" added at the end; this illustration is the lectotype of *Capparis frondosa* Jacq., designated in Al-Shehbaz (1988). However, in our realignment of neotropical *Capparis s.l.*, *Uterveria* cannot be placed in *Capparidastrum* (DC.) Hutch., because *Capparis frondosa* is the lectotype of *Capparis* sect. *Capparidastrum* (Rankin & Greuter 2004: 261), which is the basonym of the valid genus *Capparidastrum*, that is an earlier name than *Uterveria*, this follows Art. 10.5 of ICBN (McNeill *et al.* 2006). *Uterveria frondosa* (*Capparidastrum frondosum* (Jacq.) Cornejo & Iltis) has been cited as the type of *Uterveria* (Innocencio *et al.* 2006), but in the previous literature such typification does not exist. That citation cannot be considered as a valid lectotypification, because Art. 7.11 of ICBN (McNeill *et al.* 2006) states that on or after 1 Jan 2001 lectotypifications must include the phrase "designated here" or an equivalent. The lectotypification of *Uterveria* as proposed here follows Art. 10.2, 10.3 of ICBN (McNeill *et al.* 2006).

Hall *et al.* (2008) showed that *Capparis amplissima* Lam. is nested in the *Cynophalla* clade. That species also has strong morphological support to be placed in *Cynophalla*, therefore the following combination is proposed.

Cynophalla amplissima (Lam.) Iltis & Cornejo, *comb. nov.* *Capparis amplissima* Lam., Encycl. 1: 607. 1783. Type: WEST INDIES. Without exact locality, Plumier, Pl. Amer. tab. 73, fig. 2, 1756. (lectotype designated by Al-Shehbaz (1988)).

This species occurs from southern Nicaragua to Bolivia, W Brazil (Acre; *Daly et al.* 7884, NY), and in the West Indies. Photos and a description of this species are available on line, in the web site Vascular Plants of the Osa Peninsula, Costa Rica (Aguilar *et al.* 2008).

Acknowledgments

The authors thank to John McNeill by his very helpful nomenclatural advice, and to two anonymous reviewers for commenting the manuscript.

References

- Aguilar, R.; Cornejo, X.; Bainbridge, C.; Tulig, M. & Mori, S.A. 2008 onward. Vascular plants of the Osa Peninsula, Costa Rica. <<http://sweetgum.nybg.org/osa/taxon.php?im=286311>>. The New York Botanical Garden, Bronx, Nova York.
- Al-Shehbaz, I. 1988. Capparaceae. In: Howard, R.A. (ed.). Flora of the Lesser Antilles, Leeward and Windward Islands. Dicotyledoneae. Part I, 4. Harvard University, Cambridge. Pp. 293-310.
- Bentham, G. & Hooker, J.D. 1867. Capparideae. Genera Plantarum 1. Reeve & Co., London. Pp. 103-110.
- Bertoloni, A. 1839. *Horti Botanici Bononiensis Plantae novae vel minus cognitae*. Vol. 2. Pp.: 7-10.
- Candolle, A.P. 1824. *Capparideae, Prodromus systematis naturalis regni vegetabilis* 1. Paris. Pp. 237-254.
- Cornejo, X. & Iltis, H.H. 2006. New combinations in Capparaceae sensu stricto for flora of Ecuador. *Harvard Papers in Botany* 11: 17-18.
- Cornejo, X. & Iltis, H.H. 2008a. *Anisocapparis y Monilicarpa*, dos nuevos géneros de Capparaceae de América del Sur. *Journal of the Botanical Research Institute of Texas* 2: 61-74.
- Cornejo, X. & Iltis, H.H. 2008b. New combinations in South American Capparaceae. *Harvard Papers in Botany* 13: 117-120.
- Cornejo, X. & Iltis, H.H. 2008c. The reinstatement of *Capparidastrum* (Capparaceae). *Harvard Papers in Botany* 13: 229-236.
- Eichler, A.W. 1865. Capparideae. In: Martius, C.F.P. (ed). *Flora brasiliensis*. Vol. 13. Pp. 237-292.
- Hall, J.C. 2008. Systematics of Capparaceae and Cleomeaceae: an evaluation of the generic delimitations of *Capparis* and *Cleome* using plastid DNA sequence data. *Botany* 86: 682-696.

- Iltis, H.H. & Cornejo, X. 2005. Studies in the Capparaceae XXII. *Capparis sclerophylla*, a novelty from arid coastal Peru and Ecuador. *Novon* 15: 429-437.
- Inocencio, C.; Rivera, D.; Obon, C.; Alcaraz, F. & Barena, J.A. 2006. A systematic revision of *Capparis* section *Capparis* (Capparaceae). *Annals of the Missouri Botanical Garden* 93: 122-149.
- McNeill, J.; Barrie, F.R.; Burdet, H.M.; Demoulin, V.; Hawksworth, D.L.; Marhold, K.; Nicolson, D.H.; Prado, J.; Silva, P.C.; Skog, J.E.; Wiersema, J.H. & Turland, N.J. 2006. International Code of Botanical Nomenclature (Vienna Code). Adopted by the 17th International Botanical Congress Vienna, July 2005. Gantner Verlag, Ruggell. 568p.
- Plumier, C. 1756. *Plantarum Americanarum fasciculus primus[-decimus], Continens plantas, quas olim Carolus Plumierius, botanicorum princeps Detexit, eruitque, atque in insulis Antillis ipse depinxit. Has primum in lucem edidit, concinnis descriptionibus, & observationibus, aeneisque tabulis illustravit Joannes Burnannus, M.D.* Amsterdam. 262p.
- Presl, J. 1825. Capparidaceae. In: Berchtold, F. & Presl, J. O pøirozenosti rostlin aneb rostlinø, obsahujc j popsánj a vyobrazenj rostlin podlé øádù pøirozených zpoøádané. 2: 260.
- Rankin, R. & Greuter, W. 2004. A study of differentiation patterns in *Capparis* sect. *Breyniastrum* in Cuba, with a nomenclatural and taxonomic survey of Cuban *Capparis* (Capparaceae). *Willdenowia* 34: 259-276.
- Walpers, G.G. 1842. *Repertorium Botanices Systematicae*. Vol. I - Capparideae. Leipzig. 201p.

Recebido em 07/10/2009. Aceito para publicação em 09/04/2010.